

Application No.: 09/202,681

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AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

Please cancel claims 5 to 7, 13 to 17, 20, 21, 31 to 36 and 41 to 47, without prejudice or disclaimer.

This listing of claims will replace all prior versions, and listing, of claims in the application:

Claim 1 (currently amended) An isolated or recombinant polynucleotide selected from the group consisting of:

- (a) a polynucleotide encoding a thermostable phosphatase comprising an amino acid sequence as set forth in SEQ ID NO: 28, or enzymatically active fragments thereof; and
- (b) a polynucleotide which is complementary to the polynucleotide of (a).

Claim 2 (currently amended) An isolated or recombinant polynucleotide selected from the group consisting of:

- (a) a sequence as set forth in SEQ ID NO: 19, or a sequence encoding enzymatically active fragments thereof; and (b) a sequence as set forth in SEQ ID NO: 19, or a sequence encoding enzymatically active fragments thereof, where T can also be U; wherein the polynucleotide of (a) and (b) encode a polypeptide having phosphatase activity.

Claim 3 (previously presented) The isolated or recombinant polynucleotide of claims 1 or 2, wherein the polynucleotide comprises DNA.

Claim 4 (previously presented) The isolated or recombinant polynucleotide of claims 1 or 2 wherein the polynucleotide comprises RNA.

Claims 5 to 7 (canceled)

Claim 8 (previously presented) A process for producing a polypeptide comprising: expressing from the host cell of claim 7 a polypeptide encoded by the polynucleotide.

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Claim 9 (previously presented) A process for producing a recombinant cell comprising: transforming or transfecting a cell with the vector of claim 6 such that the cell expresses the polypeptide encoded by the polynucleotide.

Claim 10 (currently amended) An isolated or recombinant polypeptide having phosphatase activity comprising an amino acid sequence encoded by a polynucleotide ~~which has at least 70% sequence identity to the amino acid sequence~~ as set forth in claim 1 or claim 2 ~~SEQ ID NO: 28~~.

Claim 11 (previously presented) An isolated or recombinant polypeptide having phosphatase activity ~~enzyme~~ comprising an amino acid sequence ~~which has at least 70% sequence identity to the amino acid sequence~~ as set forth in SEQ ID NO: 28 or an enzymatically active fragment thereof.

Claims 12 to 17 (canceled)

Claim 18 (currently amended) The isolated or recombinant [[A]] polypeptide ~~comprising an enzymatically active fragment of the phosphatase~~ of claim 10, wherein an ~~[[the]]~~ enzymatically active fragment is at least 30 amino acid residues in length.

Claim 19 (currently amended) The isolated or recombinant [[A]] polypeptide ~~comprising an enzymatically active fragment of the phosphatase~~ of claim 11, wherein the enzymatically active fragment is at least 30 amino acid residues in length.

Claims 20 to 36 (canceled)

Claim 37 (previously presented) The isolated or recombinant phosphatase of claim 10, wherein the phosphatase activity is an alkaline phosphatase activity.

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Claim 38 (currently amended) The isolated or recombinant polynucleotide of claim 1 or claim 2 ~~[[14]]~~, wherein the phosphatase activity comprises hydrolyzing monophosphate ester bonds ~~is an alkaline phosphatase activity.~~

Claim 39 (currently amended) The isolated or recombinant polynucleotide of claim 1 or claim 2 ~~[[14]]~~, wherein the phosphatase activity is a phosphodiesterase activity.

Claim 40 (previously presented) A method for dephosphorylating a phosphorylated nucleic acid comprising contacting a phosphatase encoded by the polynucleotide of claim 10 with the phosphorylated nucleic acid.

Claims 41 to 47 (canceled)

Claim 48 (previously presented) A vector comprising the polynucleotide of claim 1 or claim 2.

Claim 49 (previously presented) A host cell comprising the vector of claim 48.

Claim 50 (currently amended) A process for producing a polypeptide comprising expressing from the host cell of claim 49 or claim 53 a polypeptide encoded by the polynucleotide.

Claim 51 (previously presented) A process for producing a recombinant cell comprising: transforming or transfecting a cell with the vector of claim 48 such that the cell expresses the polypeptide encoded by the polynucleotide.

Claim 52 (previously presented) A method for dephosphorylating a phosphorylated nucleic acid comprising contacting the phosphorylated nucleic acid with a phosphatase encoded by the isolated or recombinant of claim 1 or claim 2.

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Claim 53 (new) A host cell comprising the polynucleotide of claim 1 or claim 2.

Claim 54 (new) A host cell comprising the polypeptide of claim 10 or claim 11.

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